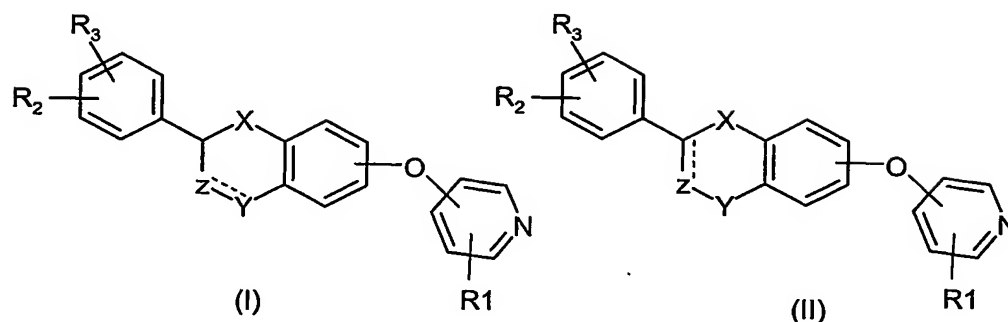


## Claims

## 1. Compounds of formula (I) or (II):



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wherein

X is -O-, -CH<sub>2</sub>- or -C(O)-;Z is -CHR<sub>12</sub>- or valence bond;Y is -CH<sub>2</sub>-, -C(O)-, CH(OR<sub>13</sub>)-, -O-, -S-;

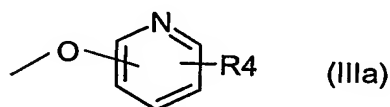
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provided that in case Z is a valence bond, Y is not C(O);

the dashed line represents an optional double bond in which case Z is -CR<sub>12</sub>- and Y is-CH<sub>2</sub>-, -C(O)- or CH(OR<sub>10</sub>)- (in formula II) or

-CH- (in formula I);

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R<sub>2</sub> and R<sub>3</sub> are independently H, lower alkyl, lower alkoxy, -NO<sub>2</sub>, halogen, -CF<sub>3</sub>, -OH, benzyloxy or a group of formula (IIIa)

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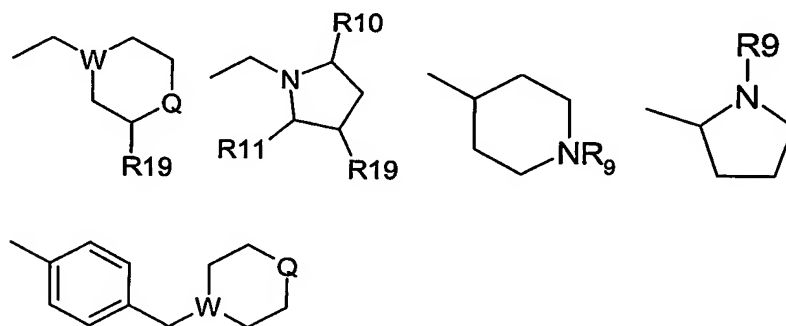
R<sub>1</sub> is H, CN, halogen, -CONH<sub>2</sub>, -COOR<sub>15</sub>, -CH<sub>2</sub>NR<sub>15</sub>R<sub>18</sub>, NHC(O)R<sub>5</sub>, NHCH<sub>2</sub>R<sub>5</sub>, NHR<sub>20</sub>, NR<sub>21</sub>R<sub>22</sub>, NHC(NH)NHCH<sub>3</sub> or, in case the compound is of formula (II) wherein the optional double bond exists or in case R<sub>2</sub> or R<sub>3</sub> is benzyloxy or a group of formula (IIIa) or in case the pyridine ring of formula (I) or (II) is attached to the oxygen atom in 3-, 4- or 5-position, R<sub>1</sub> can also be -NO<sub>2</sub> or NR<sub>16</sub>R<sub>17</sub>;

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R<sub>4</sub> is H, -NO<sub>2</sub>, CN, halogen, -CONH<sub>2</sub>, -COOR<sub>15</sub>, -CH<sub>2</sub>NR<sub>15</sub>R<sub>18</sub>, -NR<sub>16</sub>R<sub>17</sub>, -NHC(O)R<sub>5</sub> or -NHC(NH)NHCH<sub>3</sub>;

$R_5$  is alkyl substituted with 1-3 substituents selected from the group consisting of halogen, amino and hydroxy, or carboxyalkyl, in which the alkyl portion is optionally substituted with 1-3 substituents selected from the group consisting of halogen, amino and hydroxyl,  $-\text{CHR}_6\text{NR}_7\text{R}_8$  or one of the following groups:

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W is N or CH;

Q is  $\text{CHR}_{14}$ ,  $\text{NR}_9$ , S or O;

$R_6$  is H or lower alkyl;

$R_7$  and  $R_8$  are independently H, acyl, lower alkyl or lower hydroxyalkyl;

$R_9$  is H, lower alkyl or phenyl;

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$R_{10}$  and  $R_{11}$  are independently H or lower alkyl;

$R_{12}$  is H or lower alkyl;

$R_{13}$  is H, alkylsulfonyl or acyl;

$R_{14}$  is H, -OH,  $-\text{COOR}_{15}$ ;

$R_{15}$  is H or lower alkyl;

20

$R_{16}$  and  $R_{17}$  are independently H, acyl, alkylsulfonyl,  $-\text{C}(\text{S})\text{NHR}_{18}$  or  $-\text{C}(\text{O})\text{NHR}_{18}$ ;

$R_{18}$  is H or lower alkyl;

$R_{19}$  is H or -OH;

$R_{20}$  is a pyridinyl group optionally substituted with a  $-\text{NO}_2$  group;

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$R_{21}$  and  $R_{22}$  are lower alkyl;

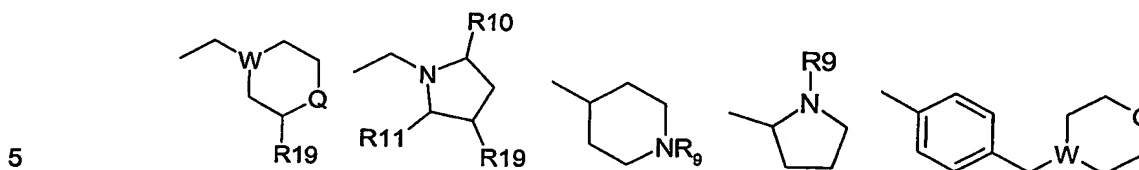
and pharmaceutically acceptable salts and esters thereof.

2. A compound according to claim 1 wherein  $R_1$  is  $-\text{NHC}(\text{O})\text{R}_5$ , X is O, Y is  $\text{CH}_2$  and Z is  $\text{CHR}_{12}$ .

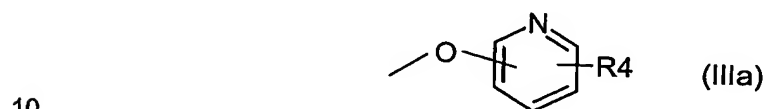
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3. A compound according to claim 2 wherein Z is  $\text{CH}_2$  and  $R_5$  is alkyl substituted with 1-3 substituents selected from the group consisting of halogen,

amino and hydroxy, or carboxyalkyl, in which the alkyl portion is optionally substituted with 1-3 substituents selected from the group consisting of halogen, amino and hydroxyl,  $-\text{CHR}_6\text{NR}_7\text{R}_8$  or one of the following groups:



4. A compound according to claim 1 wherein  $\text{R}_2$  or  $\text{R}_3$  is a benzyloxy or a group of formula (IIIa)



5. A compound according to claim 4 wherein  $\text{R}_4$  is  $\text{NO}_2$ .

15 6. A compound according to claim 4 or 5 wherein  $\text{R}_1$  is  $\text{NO}_2$

7. A pharmaceutical composition comprising a compound of claim 1 together with a pharmaceutically acceptable carrier.

20 8. A method for inhibiting  $\text{Na}^+/\text{Ca}^{2+}$  exchange mechanism in a cell, comprising administering to a subject in need thereof a therapeutically effective amount of a compound of claim 1.

9. A method for treating arrhythmias, comprising administering to a subject in need thereof a therapeutically effective amount of a compound of claim 1.